

## THE STATUS OF KINGFISHERS AND THEIR ALLIES (*Coraciiformes*) IN THE DARWIN AREA, N.T., 1974 TO 1982

H. A. F. Thompson

---

### Introduction

This is the third of a series of papers summarising data on birds in the area of the Sanderson Sewage Ponds, Darwin. A number of observers have been involved in this.

For previous papers, see McKean (1981) and Thompson (1982).

### Methods

This account covers the period from March 1974 to February 1982 and includes the destruction of Darwin and much of its natural landscape on the night of 24-25 December 1974. Our study of the area is still continuing.

Although this account, like the two before it, is simply a summary of casual observations, it is the only such body of information for the Darwin area. Each site was usually visited at least once a month; McKean has detailed these sites (*loc. cit.*).

The histograms show the total number of individual birds for each month, with the results for each month pooled. This means, for example, that a July figure is the total of all the July totals for the whole survey period. In the case of two species, there is an additional histogram giving the maximum number of individuals recorded in the month in any survey site, again with the monthly figures pooled for the whole survey period.

There are nine species involved; seven species of kingfisher (*Alcedinidae*) and one representative each of the bee-eaters (*Meropidae*) and rollers (*Coraciidae*). Together they constitute the three families of the order *Coraciiformes* in the N.T. In general, the species are easy to observe and identify and present fewer survey problems than other groups.

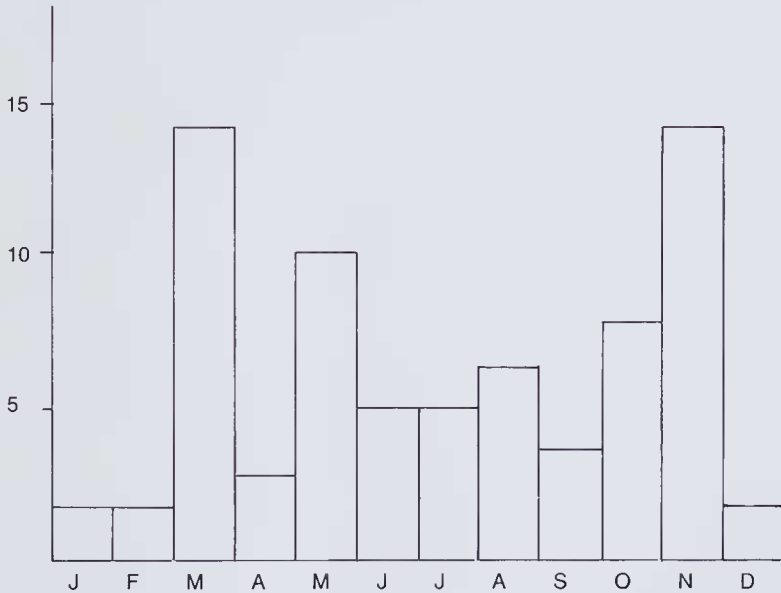
### Azure Kingfisher *Ceyx azureus*

The Azure Kingfisher is a waterside species. In the Darwin area, it occurs along the edges of mangroves, along the tidal and non-tidal reaches of rivers and creeks and, sometimes near streams in rain-forests. It usually prefers well vegetated watercourses.

The uneven histogram is marked by two 'highs', caused by high counts in March and November 1974, 11 and 8 respectively. No other single monthly total exceeds 4. This suggests that whilst the species may never have been especially common in the study area, it became much scarcer after the 1974 cyclone.

The total number of individuals recorded for the ten months of 1974 is 28, a monthly average of 2.8. That of the next highest year, the twelve months of 1979, is 10, an average of 0.83. We have no records of the species in the study area in 1975, the year immediately after the cyclone. We recorded 9 individuals for both 1980 and 1981, an average of 0.75. Either the 1974 figures were atypically high or the species has not even yet fully recovered from the damage caused to its habitat by Cyclone Tracy.

---

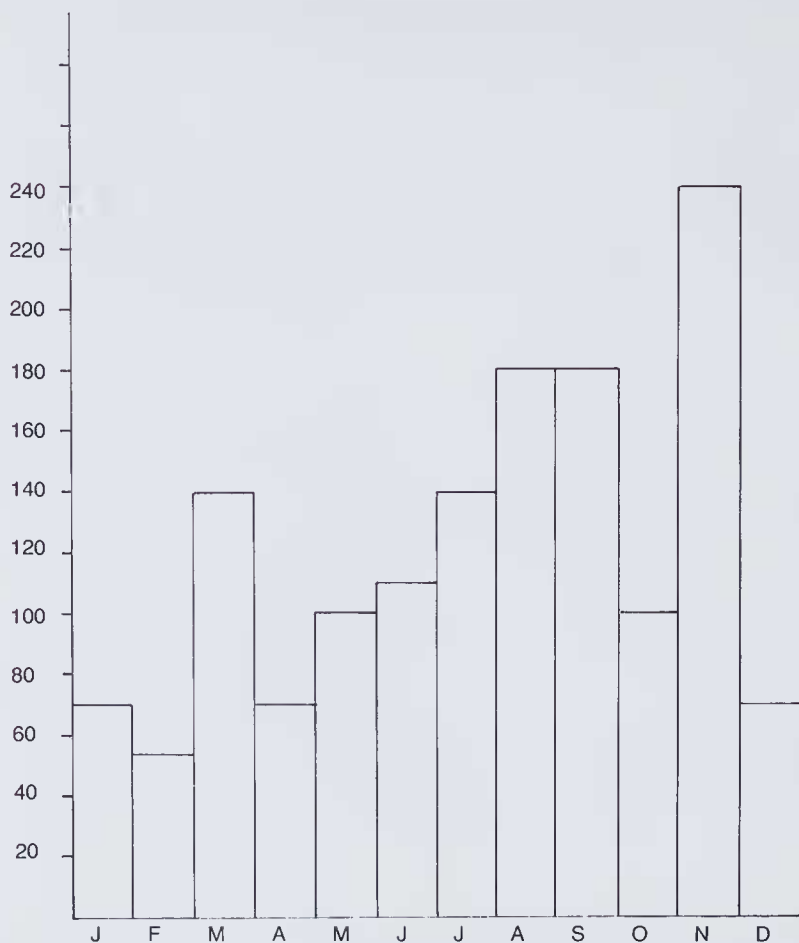


The species is quite common outside the immediate city area. John Estbergs has a record of a nest with eggs at Humpty Doo, 20 April 1974. Storr (1977) defines the breeding season as November to April.

#### **Little Kingfisher *Ceyx pusillus***

The Little Kingfisher occupies a similar range of habitats to the Azure Kingfisher in the Top End of the Northern Territory. However, it is much less common; we have only six individual records from the study area for the survey period. There are two records each from July and December and one each from January to November.

Away from the immediate Darwin area, I have records from Fogg Dam and Beatrice Creek, a tributary of the Adelaide River. There are breeding records from Workshop Jungle near Fogg Dam (J. L. McKean, J. A. Estbergs, and A. L. Hertog, pers. comm.).



### **Blue-winged Kookaburra *Dacelo leachii***

The Blue-winged Kookaburra is a common species throughout much of the Top End, including suburban Darwin. It is largely an open forest bird, most often found in the eucalypt-dominated habitats but it also occurs in paperbark woodlands and on the fringes of mangroves and monsoon-forests.

Storr (loc. cit.) gives the breeding season as September to December. It is difficult to explain the peaks on the histogram. The species is noisy throughout the year and thus not particularly so in the breeding season when it might be more noticeable. As far as we know it does not migrate, a likely explanation for peaks with other species. It is reasonable to assume, though, that the low figures for January and February may indicate the moulting season when the birds are likely to be quieter than normal. This is likely to happen soon after the breeding season.

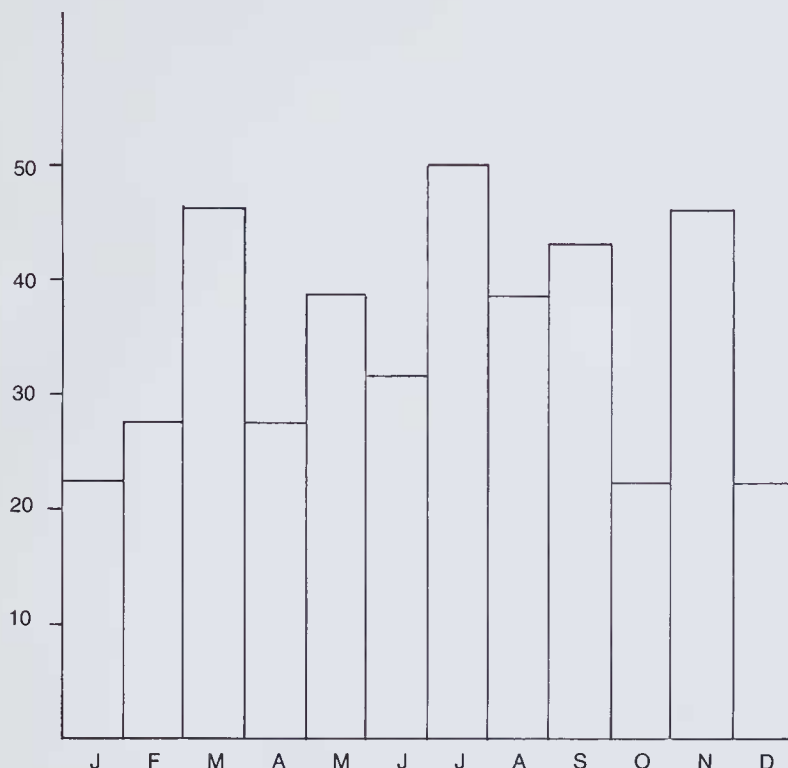
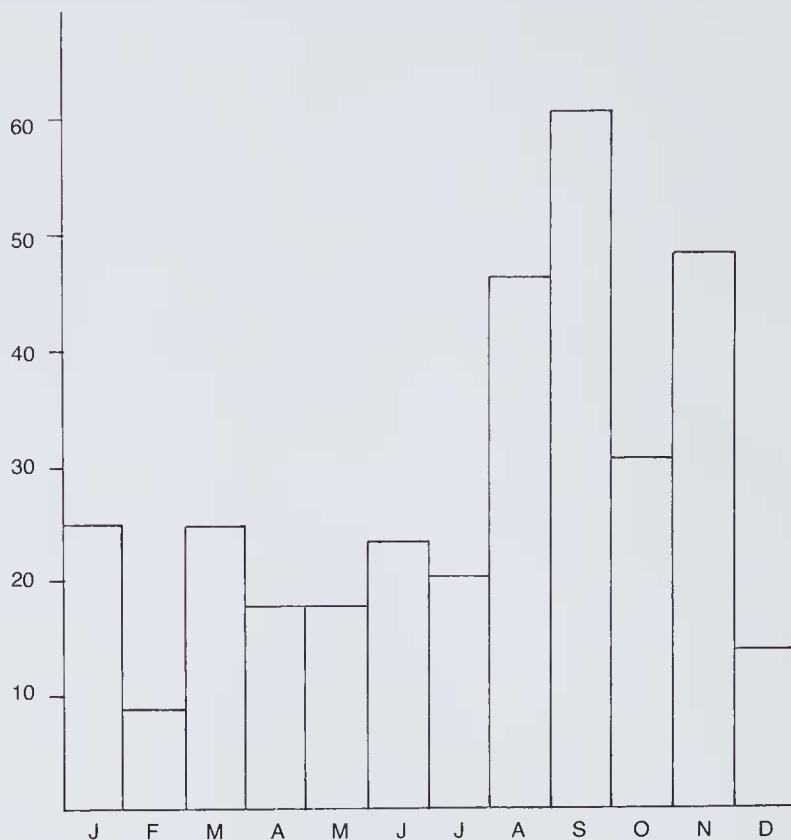


Fig. 3 plots the maximum number of individuals for each month. The pattern is similar to that of Fig. 2 except for the high July figure, caused by a maximum of 20 in July 1974. This is another pre-cyclone figure that has never been matched since. Apart from this, there is nothing in the data to suggest that Fig. 2 has been disrupted by unusually high maximum counts which have pushed up the total number of individuals for the month. The high November peak in Fig. 2 is again supported by an abnormally high 1974 total when 88 individuals were recorded.

### Forest Kingfisher *Halcyon macleayii*

The Forest Kingfisher is another common species in much of the Top End. Although it is found close to Darwin's suburbs, for example in our study area, it seems to be less tolerant of man than either the Blue-winged Kookaburra or the Sacred Kingfisher. Whilst it occurs in eucalypt woodland and on the fringes of monsoon forest, it prefers habitats close to fresh water, especially paperbark woodland. In general, it avoids mangroves and suburban gardens.

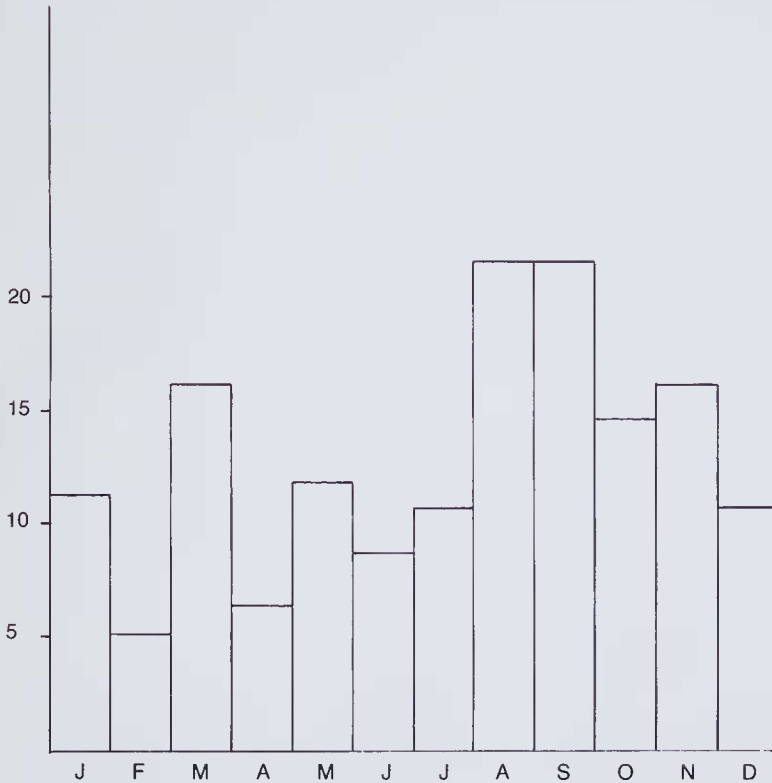
The species is widespread to the east of Darwin where there is suitable habitat but it does not seem to penetrate as far inland as some northern species. Storr (loc. cit.) records its range south to Port Keats, Fountain Head, El Sherana and Port



Bradshaw. I have a record of a single bird on the Delamere Road, Willeroo station on 19-20 August 1972, at 15°17'S, 131°35'E. This is well to the south of Storr's limits.

Storr gives the breeding season as September to November. Our records generally agree with this. As a nest-site, it favours the nests of those termites which build their colonies in trees. The birds excavate a cavity in these globular structures. We have a record from the study area of a pair excavating on 21 and 29 October 1978; the sitting bird was put off the nest on 11 November. Breeding records from outside the study area fit into Storr's limits with one exception, a record of a pair excavating in the Kapalga area on 22 May 1981 (J. L. McKean and A. L. Hertog).

The two histograms, Figs. 4 and 5, have similarities. Fig. 4 records total numbers of individuals, Fig. 5 the maxima for any survey site. Both show relatively low dry season figures, that is from April to August, with a peak at the end of the dry season which tails off with the onset of the wet. This probably coincides with the period during which the birds are establishing their territories and are at their noisiest.



The relatively low figures for December, January and February suggest a quiescent phase after the breeding season. There is no evidence that the local birds migrate; they belong to the nominate race. However, the race in south-eastern Australia, *H.m. incincta*, is migratory, breeding in Australia and wintering in the Kai Islands, eastern Papua New Guinea and New Britain (Condon: loc. cit.). There are no records of this form from the Territory.

#### **Red-backed Kingfisher *Halcyon pyrrhopygia***

This is the kingfisher of the arid interior, quite common around Alice Springs throughout the year. In Darwin, it is largely a dry season visitor, generally moving away from the area to breed. In the survey area, it is usually found in eucalypt woodland. Elsewhere in Darwin, it may frequent open areas with few trees where it often perches on power-lines. It sometimes ventures into suburban streets.

Like many arid zone species, the Red-backed Kingfisher population fluctuates and birds may breed outside their normal range. I know of only one breeding record from the Darwin area. On 19 November 1973, C. R. Fenner was given two well-grown fledglings that had been found in the Coonawarra area. Storr (loc. cit.) records breeding north to Marrakai.



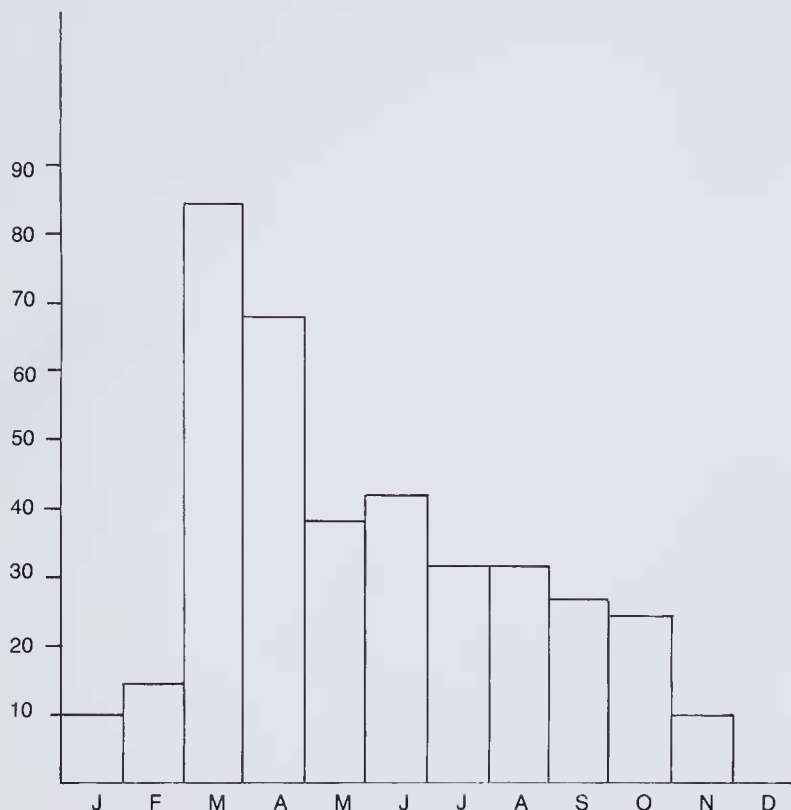
### Sacred Kingfisher *Halcyon sancta*

Condon (loc. cit.) states that the southern populations of this species are migratory and that it winters in northern Australia, Papua New Guinea and the southern Philippines. Mason and Schodde (in Reader's Digest, 1976) suggest that the seasonal movements are only clear-cut in the southern part of the bird's Australian range.

Sacred Kingfishers are present in the study area virtually throughout the year but, as the histogram shows, we have no records for December and the figures for November, January and February are low. The March peak suggests a heavy passage migration through the area, tailing off towards the end of the year. The June figure is perhaps anomalous: the 1974 figure is once again high at 26, over five times the next highest June figure. Interestingly, there seems to be no return, presumably southbound passage through the area. This must follow another route so that in this respect, the species resembles the Little Curlew *Numenius minutus* in which the northbound passage usually by-passes Darwin (Thompson, 1978).

We do not know whether the Sacred Kingfisher breeds regularly in the Darwin area. Storr describes it as breeding north to Katherine in December and January, the season when Darwin populations are at their lowest. However, there are breeding records from the Top End. W. R. Mason found a nest with four eggs east of Humpty Doo on 29 October 1978. J. and L. Short found a nest with young near Kapalga on 12 December 1979 (per J. L. McKean).

The Sacred Kingfisher occupies a wider range of habitats than most species of *Halcyon* in the Darwin area. It occurs in most lightly timbered situations, including suburban gardens, but generally avoids the more closed forests, such as monsoon forest, except on the fringes. It does frequent mangroves, often close to the Collared Kingfisher but favours the landward side of the succession.



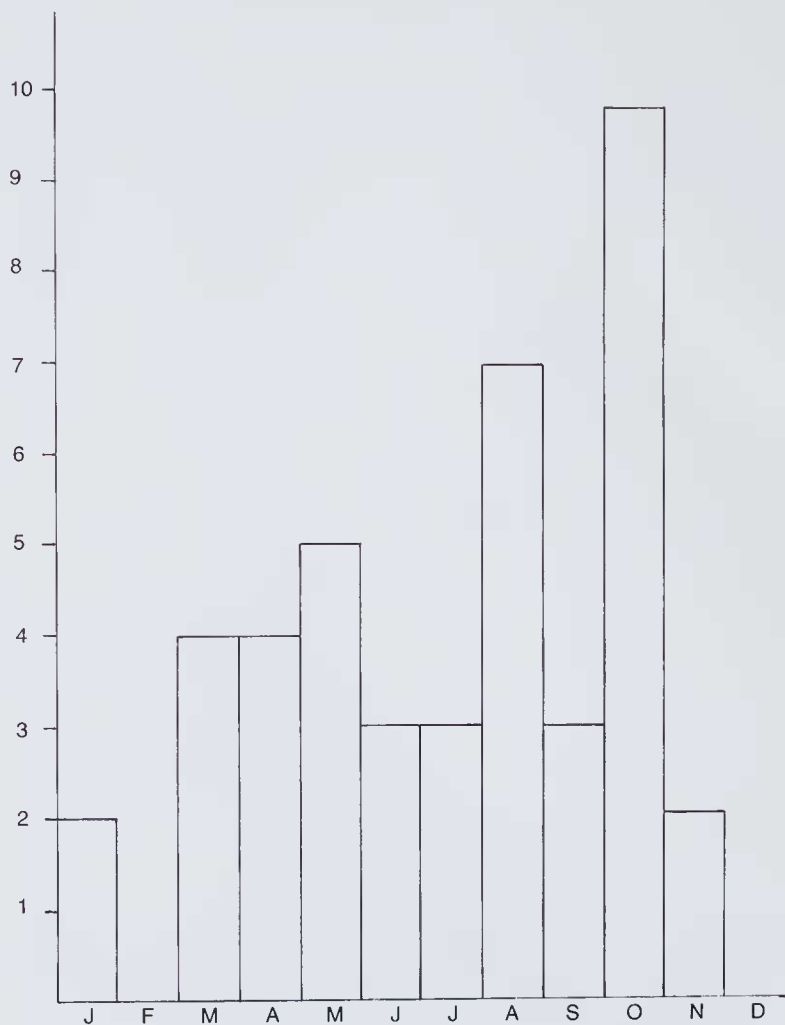
### **Collared (Mangrove) Kingfisher *Halcyon chloris***

It is difficult to explain the uneven nature of the histogram for the Collared Kingfisher, except through insufficient data. Whilst the species is quite common in suitable habitats in the Darwin area, being regular at Nightcliff, Dynah Beach and Ludmilla Creek and other sites, it is fairly scarce in the study area. In this case, the high October figure is not caused by a high 1974 count; the scanty data we do have gives consistent readings for the month.

Condon describes the species as migratory in Australia. Storr does not comment on this aspect of its behaviour whilst mentioning an undated breeding record from Melville Island. Our records show that it is present virtually throughout the year.

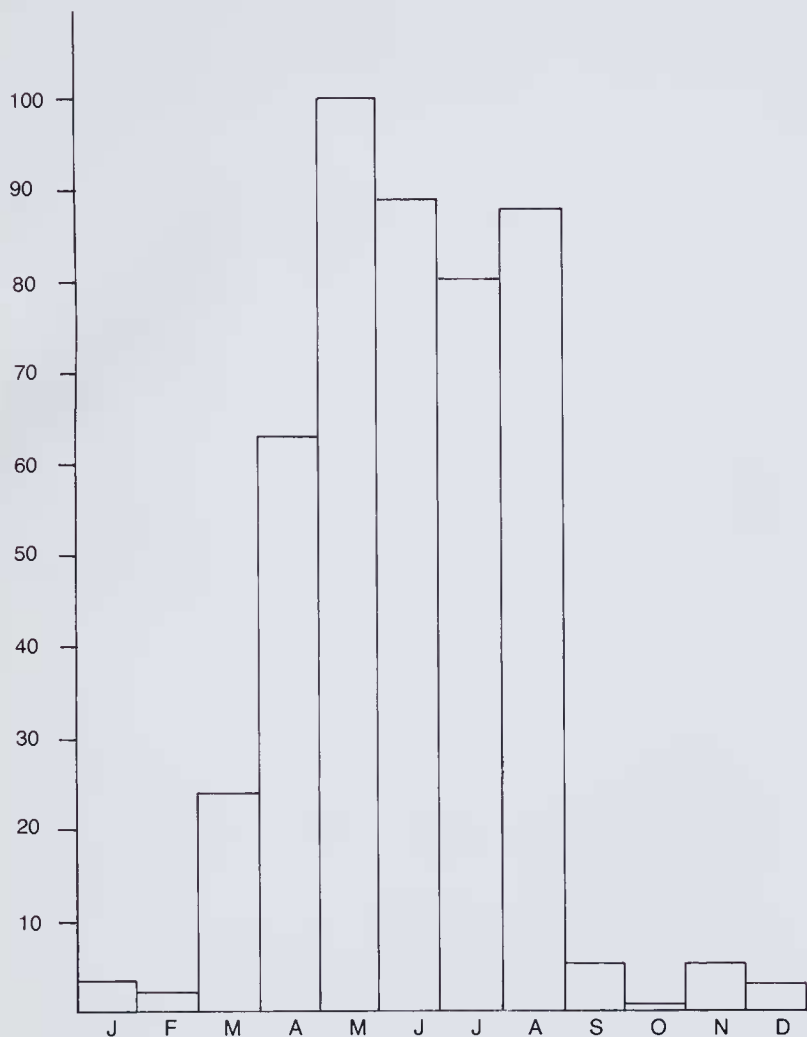
In the Darwin area, the bird is restricted to mangroves, as its alternative name, 'Mangrove Kingfisher' suggests. However, in South-east Asia, including Timor, some 500 kilometres to the north, it is much more catholic in its choice of habitat, frequenting village gardens. In the Malay Peninsula, it is quite common in coastal she-oaks *Casuarina equisetifolia* but it avoids them in the Darwin area. There is one record of the bird 'out of habitat' in the study area, in monsoon forest 300 metres from mangroves (J. L. McKean).





Birds of the Australian race, *H.c. sordida* are much darker and less blue on the upperparts than the races in South-east Asia.

The Collared Kingfisher breeds in the last quarter of the year in the Darwin area. On 22 October 1977, I saw a pair apparently prospecting for nest-sites at Nightcliff and by 7 November, one was feeding the other on the nest. Its choice of habitat in the Darwin area may well be governed by the presence of large, decaying mangroves with suitable nest-holes.



### **Rainbow Bee-eater *Merops ornatus***

Condon describes this species as breeding in temperate and tropical Australia, migrating in winter to the Lesser Sundas, the lowlands of Papua New Guinea, the Bismarck Archipelago and the Solomon Islands. He points out that it is commoner in the north and east of the country than in the cooler, more southern districts.

Storr describes its range as the greater part of the Territory and notes that it is very common in the northern sub-humid zone from April to August, noting further that it breeds north to Darwin from September to December.

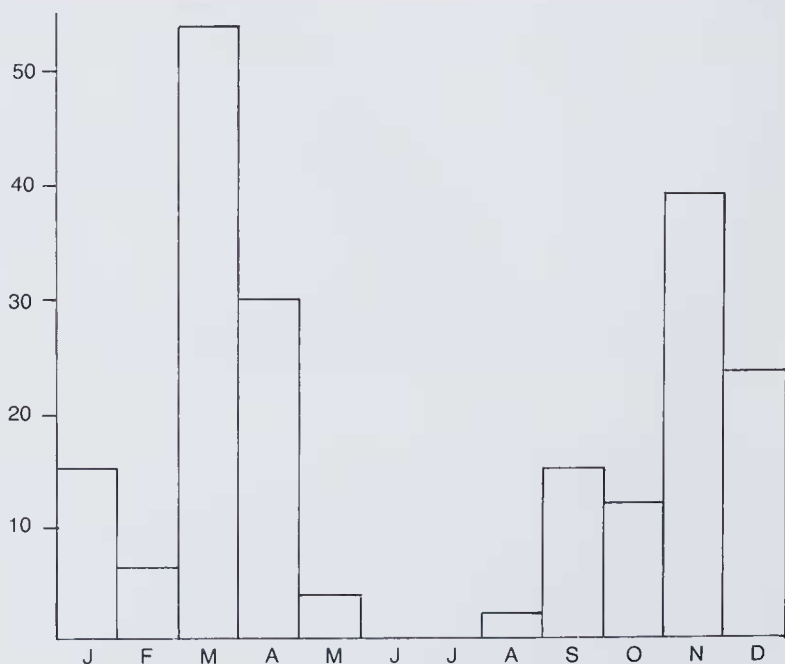
Fig. 9 shows a striking increase in the numbers of Rainbow Bee-eaters, beginning in March and reaching a peak in May, after which, it levels off to decline sharply at the end of August. There is a small population present throughout the year. During the dry season, it is a common and familiar bird in the Darwin area, including the suburbs where it may roost in quite large numbers, for example, about 200 birds at Rapid Creek (30 May 1976).

It breeds in the Top End in small numbers. J. L. McKean and myself found a bird excavating a nest-burrow near Red Lily Billabong, Kapalga, on 9 October and I found a pair with well-grown young at Ludmilla Creek, Darwin, in late October and early November, 1980. I found several birds on South Goulburn Island, north-east of Darwin between 18 and 20 February 1981, including a pair with well-grown young (Thompson, 1983, in press).

The data suggests that Darwin receives a substantial wintering population from some part or parts of southern Australia. Serventy and Whittell (1967 and later edition) state that the species is a strict migrant to the southern part of Western Australia but present throughout the year from the Gascoyne and Upper Murchison rivers north to the Kimberleys. There may be 'leap-frog' migration, with birds from the extreme south migrating north over the populations in 'the middle'.

Morris, McGill and Holmes (1981) describe it as a partial migrant in New South Wales, least numerous on the South Coast and present in all months on the Northern Rivers.

The May peak on the histogram suggests that Darwin hosts Rainbow Bee-eaters on passage to winter quarters further north. J. L. McKean, I. J. Mason and myself found the species widespread in many parts of East Timor in May 1974.



**Dollarbird *Eurystomus orientalis***

The Dollarbird is a migrant in the Australian part of its range, breeding in the north and east of the country and wintering in parts of Indonesia and Papua New Guinea (Condon). Storr describes it as a common visitor to the northern third of the Northern Territory, arriving in September-November and leaving in March-May. It breeds from October to December.

The histogram shows no records for June and July and few for May and August: the species is largely absent from the Darwin area for these four months. The peaks in March/April and November/December, over and above the steady wet season population, suggest that there may be a passage of birds through Darwin. If this is the case, then it is a two-way passage in the case of the Dollarbird, unlike that of the Sacred Kingfisher or the Rainbow Bee-eater. The birds appear to be passing through the Darwin area at the end of the year, presumably to breeding areas elsewhere in Australia and then returning to their winter quarters in islands to the north in March and April.

'High peaks' on the histogram for March and November are only partly caused by high 1974 figures and are borne out by the figures for the following years.

**Acknowledgements**

I am grateful to the following people for supplying records: J. A. Estbergs, C. R. Fenner, A. L. Hertog, I. J. Mason, W. R. Mason and J. L. McKean.

J. L. McKean read the draft of this paper, allowed me to use his personal notes and helped with the references.

**References**

- CONDON, H. T. (1975) Checklist of the Birds of Australia, Part I, Non-passerines.  
MASON, I. J. & SCHODDE, R. (1976) in Reader's Digest Complete Book of Australian Birds.  
McKEAN, J. L. (1981) The status of Gulls and Terns (Laridae) in the Darwin area, N.T. 1974-1980, Australian Seabird Group Newsletter 15.  
MORRIS, A. K., MCGILL, A.R. & HOLMES, G. (1981) Handlist of Birds in New South Wales.  
SERVENTY, D. L. & WHITTELL, H. M. (1967) Birds of Western Australia.  
STORR, G. M. (1977) Birds of the Northern Territory, W.A. Museum Special Publication No. 7.  
THOMPSON, H. A. F. (1978) Further Records of Palaearctic Species in Darwin, Sunbird Vol. 9, Nos. 3 & 4.  
THOMPSON, H. A. F. (1983) Birds recorded on a visit to South Goulburn Island, Northern Territory, Sunbird (in press).  
THOMPSON, H. A. F. (1982) The Status of Cuckoos (Cuculidae) in the Darwin Area, N.T., 1974-1980, Northern Territory Naturalist No. 5.
-